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ABSTRACT

This paper reviews the research evidence on vouchers and considers the factors that make education vouchers a "live issue" in U.S. education policy. These factors can be articulated in terms of Levin's notions of freedom of choice, productive efficiency, equity, and social cohesion. It is possible to construct a reasonable case for voucher reform based on economic principles, triangulated evidence, and the absence of a strong set of counter-arguments. However, it is equally plausible to reject this case after considering the principles, evidence, and counter-arguments more closely. Moreover, voucher schemes are a trivial component of U.S. schooling, with some ambivalence on both the right and the left, and no popular mandate. Hence, vouchers are not a "live issue"; there is much discussion, but little action. Nonetheless, voucher schemes are part of a general trend toward liberalization of supply and demand of education. This trend includes a range of policy initiatives, including greater competition, greater accountability, and more contract schooling. A new example of this trend is tuition tax credits. Evaluating these credits may be even more complicated and politically charged than the debate over voucher schemes. (Contains 54 references.) (Author/RT)

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Teachers College, Columbia University

International Experience with Demand-led Financing: Education Vouchers in the USA, Great Britain and Chile

Clive R Belfield*

May 2001

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Abstract – This paper reviews the research evidence on vouchers and considers the factors that make education vouchers a "live issue" in US education policy. These factors can be articulated in terms of Levin's (2000a) notions of freedom of choice, productive efficiency, equity and social cohesion. It is possible to construct a reasonable case for voucher reform based on economic principles, triangulated evidence, and the absence of a strong set of counter-arguments. However, it is equally plausible to reject this case after considering the principles, evidence and counter-arguments more closely. Moreover, voucher schemes are a trivial component of US schooling, with some ambivalence on both the Right and the Left, and no popular mandate. Hence, vouchers are not a "live issue": there is lots of discussion, but not much action. Nonetheless, voucher schemes are part of a general trend towards liberalization of supply and demand of education. This trend includes a range of policy initiatives, including greater competition, greater accountability, and more contract schooling. A new example of this trend is tuition tax credits: evaluating these credits may be even more complicated and politically charged than for voucher schemes.

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The Occasional Paper Series of the National Center for the Study of Privatization in Education (NCSPE) is designed to promote dialogue about the many facets of privatization in education. The subject matter of the papers is diverse, including research reviews and original research on vouchers, charter schools, home schooling, and educational management organizations. The papers are grounded in a range of disciplinary and methodological approaches. The views presented in these papers are those of the authors and do not necessarily represent the official views of the NCSPE.

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1. Introduction

This paper reviews the evidence and development of policy on education vouchers in the US over the recent period 1995–2001. Education vouchers are 'coupons or grants giving limited purchasing power to an individual to choose among a restricted set of goods and services'. Typically, voucher schemes not only mean greater demand-led education provision (more 'purchasing power'), but are also accompanied by reforms to the supply of education (the 'restricted set' is expanded beyond currently available options). Although these ideas of demand and supply are not well separated in the literature, the focus here is mainly on the demand-led aspect, i.e. the voucher as a purchaser coupon. Just like other coupons, education vouchers come in very different varieties and the terms of the voucher make a big difference to its policy impact (Levin, 2000a). Evidence on 'voucher schemes' is therefore not easy to generalize: there is no one single voucher scheme. Nevertheless, during the 1990s the idea of vouchers caught the imagination of several important groups in the US and support for such schemes grew.

There are several voucher programs currently operating in US education. There are privately funded schemes in Cleveland (Scholarship and Tutoring Program), Indianapolis (Educational Choice Charitable Trust Program), and San Antonio (Children's Educational Opportunity Foundation Scholarship Program). These schemes are small and unlikely to grow substantially. Plus, there are two public schooling voucher schemes, in Florida and in Milwaukee (as well as longstanding school choice programs in Maine and Vermont).

The most recent public schooling voucher scheme, and the one presently getting the most attention, is the Florida Opportunity Scholarship Program. Since 1999, all Florida schools have been graded from "A" to "F", with "F" denoting a "failing" school. If a school has been graded "failing" twice in a four-year period, any students who attended that school during the previous school year or have been newly assigned to the school, regardless of financial need or academic

performance, may obtain a voucher from the state. The voucher covers tuition and fees for students to attend private schools, most of which are sectarian.[1]

The most prominent and longest-running public school voucher program is in Milwaukee (Rouse, 1998ab; Witte, 1999). The original Milwaukee Parental Choice Program, started in 1990, was targeted at low-income students, living in the City district. The voucher was initially valued at $2450, with around 1000 voucher students. By 2000, the number of voucher students had risen to 9000 (with the voucher valued at $5106). Eligibility was also extended to K-3 education for prior private school students (special education students are not eligible for the voucher) and to be part of the voucher scheme, private schools had to satisfy a set of educational standards.

Beyond these schemes, 10% of US school students are in private schooling, the majority of which offer religious education; and this figure has been reasonably stable over the past two decades. Thus, the vast majority of students (over 88%) are in public schools and voucher-led education is a trivial component of actual provision. As a public policy concern, then, vouchers rank very low.

That said, there was a groundswell of interest in education vouchers in the 1990s; this is discussed in Section 2. Even with this growing interest, voucher initiatives essentially stalled after the November 2000 election, for a variety of reasons; this is discussed in Section 3. For both discussions, the focus is on the research evidence (insofar as this drives the debate on vouchers).

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[1] As at 1999-2000, 57 students are attending five private schools in Escambia County (Pensacola), at a cost of approximately $160,800 in public funds. Of these students, 53 attend four sectarian private schools; the others attend a Montessori School. Vouchers are disbursed in four installments during the school year as warrants made out to participants. Once a student receives a voucher, that student is eligible for the plan until completion of schooling, regardless of any change in the grade of the original public school. Vouchers in this Scholarship Program are worth an amount that is the lesser of (a) the tuition and fees charged by the participating private school, or (b) a "calculated amount" determined by a formula (roughly equivalent to the funds that would be expended on the student's education in a public school). Participating private schools are required to accept the vouchers as full payment of the tuition and fees. However, a participating private school is not prohibited from raising the tuition/fees it charges to voucher students to a level that equals the full public school per-pupil expenditure. The program does not require private schools to offer a higher quality education than the public school the student would have attended; and private schools are not subject to the grading system. Generally, the voucher does not restrict how participating private schools may spend public funds, although private schools may not "compel" any voucher student "to profess a specific ideological belief, to pray, or to worship." Private schools may though expect voucher students to participate in some religious activities.

Notwithstanding, there is still support in the US for pro-market reforms to education systems. These reforms are on the supply-side – competition, accountability, and school contracting – and the demand-side; both sides are considered in Section 4. Thus, the future of privatization is nicely poised: in one scenario, vouchers are part of an inexorable pro-market trend and growing in acceptance; in another, a series of high-profile failed educational reforms could consign them to an academic curiosity. These alternative scenarios are discussed in the Conclusion.

2. Why the interest in voucher schemes?

2.1 A Confluence of Factors

There are several reasons and motivations for support for voucher schemes in the US. First, researchers – at least in Public Policy and Economics – find the principles of vouchers appealing. Second, the research evidence from a range of sources and using various methods is mildly positive: vouchers tend to be positively correlated with educational quality. Third, the contrary arguments have a long history, have not advanced much over the period, and have not invoked much empirical evidence to weigh in against the proponents of vouchers. We discuss this research evidence below and relate it to the four criteria for evaluating voucher schemes: freedom of choice, productive efficiency, equity, and social cohesion (Levin, 2000b).

In addition to research, there are of course other motivations. Specifically, voucher reform is not divorced from prevailing political and economic circumstances, and the growth of the US economy during the 1990s offered a powerful fillip to the ideology of free markets: such exchange nexuses appeared evidently better than command and control allocation mechanisms. This encouraged partisans of the market, who lobbied for substantial support and generated 'privatization creep' (see Carnoy, 2000). Each proposed reform encouraged such partisans to think of alternative organizational structures and ways to introduce markets (e.g. for-profit schooling, tuition tax credits, or remedial education). It is not appropriate to under-estimate these populist motivations.

2.2 Principles of Voucher Schemes

The market principles underlying vouchers may have powerful appeal (Steuerle et al., 2000). It may make sense to introduce coupons, rather than simply have children allocated by fiat to a school where provision is free, unmediated by a direct finance constraint. Vouchers may have some of the following benefits, where the first two benefits reflect greater freedom of choice and the next four benefits reflect enhancements to productive efficiency.

Vouchers may allow parents greater opportunities to choose their enrollment: the voucher may be valid at a range of schools or programs within schools, allowing parents to find education provision that better meets their needs. They may also allow parents more freedom of choice on the amount they spend on education: parents can redeem the coupon and spend extra on education. This freedom of choice is an end in itself (Friedman, 1962); but it may also allow flexible response to changes in the returns to education. In addition, vouchers may clarify the budgets of schools and reveal which schools offer high quality provision, raising their productive efficiency. The practices used in high quality schools can then be disseminated to all schools or schools may compete to offer superior provision (and inferior schools may close). Furthermore, vouchers may clarify to parents what education they should be getting. If the voucher is stated as $x, the parents should expect an education that is 'worth $x', and this accountability may also raise schools' productive efficiency. Finally, vouchers may simplify the taxation rules on private schooling, raising productive efficiency at higher administrative levels.

Collectively, these arguments fit nicely within a corpus of economic theory. They are easy to understand and resonate with popular notions –at least in the US– about how markets work and how societies should operate (Marks and Lipset, 2000). They also fit with a general belief in, and international evidence for, the efficacy of market exchange. Ultimately, though, support for vouchers should depend on more direct inquiry and evidence.

2.3 Research Evidence on Vouchers

Voucher Schemes in Practice

As noted above, there are two public schooling voucher schemes currently in operation in the US. However, the Florida scheme has been in operation for too short a time and has few students: no credible research evaluation has yet been undertaken (although one is in progress). Evaluations of the Milwaukee Choice Program, which has been in progress over ten years, show only limited improvements by voucher students. Witte (1999) compared three groups' achievement: a random sample of Milwaukee school children; a sample of low-income pupils; and those participating in the Choice Program. The results yielded no evidence that the Program had raised test scores. Rouse (1998b) compared those who did participate with those who applied to participate, but were unsuccessful (by chance). For math scores, this comparison yields small but positive effect sizes of 0.08–0.12 standard deviations per year; for reading scores, no significant differences are evident. (The privately-run Indianapolis scheme also shows few achievement gains). Finally, alternative measures of performance, particularly parents' views, suggest that the Choice Program does raise educational quality, albeit not by any substantial magnitude.

The other private voucher schemes offer clearer evidence on the effects on parental satisfaction (for a review, see Peterson and Hassel, 1998). Particularly, the Cleveland Scholarship and Tutoring Program, operating since 1996, indicates high parental satisfaction for those able to choose their education. The San Antonio voucher scheme shows differences in the characteristics of families that choose, as against those that do not; with choosers typically of higher socio-economic status. (Although the Milwaukee voucher scheme shows only parental education to have a strong effect). From recent history, voucher schemes have however been short-lived and of limited success: the 1987-90 trial in Richmond, California, showed few clear advantages (Chriss et al., 1992).

Experimental Voucher Schemes

In addition to actual voucher schemes, three linked voucher experiments have been

conducted in Dayton Ohio, Washington DC, and New York City (Howell et al., 2000; Myers et al., 2000). These experiments involved the randomized allocation of a voucher to between 400–1000 students across the three districts. The voucher was valued at $1500 for three years of attendance at any school, with eligibility directed mostly at low ability/income students. The experiment tested whether those students who received a voucher had higher educational outcomes, using the Iowa Test of Basic Skills (students were pre-tested and post-tested). A summary estimate of the gain in outcomes is of an effect size for African American students after two years of switching from public to non-public schools of 0.33; for other ethnic groups, the effects are pretty close to zero. The aggregated effect size across all students is statistically significant, positive and of "reasonable" magnitude, compared to other educational interventions.

International Evidence on Vouchers: Chile

The international evidence on vouchers may also be pertinent. Chile has had fully funded vouchers, applied nation-wide, since the reforms of the 1980s (McEwan, 2000a; McEwan and Carnoy, 2000). In Chile, both religious and non-denominational private schools have grown in response to the voucher funding such that 34% of total enrollment was in subsidised private schools by 1997 (up from 15% in 1981). However, the fee-paying private schools hardly expanded over the period 1981–97, only increasing by three percentage points to 10% of total enrollment. On performance, McEwan (2000a) finds only limited differences between the new voucher schools and the comparable public schools. Mizala and Romaguera (2000, 397) report substantial differences in the municipal–private school mix across regions, but also find no clear academic advantage to the private schools over the municipal schools (with both these types performing somewhat lower than the private fee-paying schools). Although Catholic voucher schools are somewhat more effective than public schools (and non-religious voucher schools somewhat less effective), non-religious schools are slightly more efficient (McEwan, 2000a). Finally, the gap in performance between

subsidised and fee-paying schools narrowed over time. Nevertheless, the voucher system is at least operating, undermining the claim that large-scale voucher schemes are 'not practical'; and many other countries also have voucher-type mechanisms or demand-led financing, even as these are not explicitly defined as such (Patrinos and Ariasingam, 1998; West, 1997).

International Evidence: United Kingdom

Looking at the United Kingdom, voucher-type reforms have proliferated through the education system. One explicit, high-profile voucher scheme, the 1996-98 Nursery Voucher Scheme, failed for a host of political and practical reasons (Sparkes and West, 1998). But there have been other voucher reforms. The entire secondary schooling system in England and Wales has operated since 1988 with open enrolment and school funding tied to enrolment numbers, where the voucher is called the 'age-weighted pupil unit'. Overall, this reform has been regarded as at least benign, if not successful, in boosting achievement, stimulating productive efficiency and even reducing inequities and enhancing social cohesion (Bradley et al., 2000; Gorard, 2001; for a more critical review, see Levacic and Hardman, 1999). Similarly, in post-secondary education, colleges are independent corporations and funding mainly follows students (but with 'core' funding year-on-year). Here the voucher is more complicatedly expressed in terms of 'funding units', with college revenues based on enrolment, on program duration, and on student completion. These are large-scale reforms with characteristics akin to vouchers.

In the UK, explicit demand-led financing schemes have also been attempted in both post-secondary and higher education. Under these schemes education providers could enrol as many students as they wished at a pre-specified marginal revenue (below average revenue). Neither scheme was a success. In higher education, the universities collectively refused to participate, in effect bidding for zero extra enrolments. In post-secondary education, approximately 10% of the sector expanded enrolments enormously under arrangements anomalously called 'franchises', generating a substantial financing burden for government (Belfield et al., 2000). These schemes

illustrate the practical problems of voucher reform: with higher education, the scheme was undermined because of the political and institutional context of provision (i.e. a well-coordinated higher education system unified in its opposition); with post-secondary education, the demand-led financing broke down because the coupon was too generous.

Evidence across the Economics of Education

In addition, there is substantial related work in the Economics of Education that emphasizes the benefits in terms of productive efficiency from competition in education markets. Such competition, either between public schools or between public and private schools, has positive effects on graduation rates, achievement and on cost-containment (for example, see Dee, 1998; Hoxby, 1999, 2000; Zanzig, 1997). Voucher schemes may allow for greater competition, in giving greater voice to parents, and so induce these benefits.

Relatedly, there have been simulations of the introduction of vouchers, where private schools differ from public schools in how they price peer inputs into schooling. In their peer-pricing model, Epple and Romano (1998) map the simultaneous effects on achievement, the tax rate and welfare from variations in the value of a voucher. They find generally positive effects on achievement, an increased private sector, and substantial effects on the tax rate (see also Hoyt and Lee, 1998; Nechyba, 2000). Overall, there appear to be productive efficiency gains under such simulations, with only limited impact on social structures (Manski, 1992).[2]

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[2] Specifically, Epple and Romano (1998) report five main findings. First, achievement gains are generally increasing as the voucher increases in value. However, these gains arise because having more students in the private sector allows for greater student partitioning by ability and so for stronger peer group effects. Such partitioning may not be equitable. Second, achievement gains may raise productive efficiency but reduce social cohesion. Third, the model also suggests a large private sector (with around 90% of the student cohort in private schooling). A supply response of this magnitude seems unlikely. Fourth, the tax rate is also affected by the introduction of vouchers. When vouchers are low in value, the tax burden is offset by higher private school enrollments; the tax rate falls. As the voucher rises in value, it covers the costs of most students and so causes the tax rate to rise. This suggests government expenditures may rise sharply in a non-linear fashion – more per-student government expenditures encourages a higher rate of take-up. This sharpness may inhibit the introduction of vouchers because of tax revolt. Finally, in terms of welfare, vouchers appear to have a positive effect, albeit small as a proportion of (parental) income.

2.4 Insufficiency of the Contrary Arguments

Notwithstanding the above evidence, however, vouchers may have significant costs (that outweigh the benefits) in terms of equity and or social cohesion: voucher schemes will be less fair and impair relations within society. Parents may choose schooling that either has low or negative social benefits or that segregates them from other groups, undermining social cohesion. Or, if enrollment patterns lead to low-cost, high-ability/income students being clustered together, then flat voucher funding/provision may be inequitable. Plus, if the voucher is available to parents who paid for private schooling, then funding may be inequitable given current tax rates. Although these contrary arguments are powerful and meaningful, they are typically expressed as caveats to any policy proposal or voucher evaluation. Four reasons for this may be cited.

First, there is not much empirical evidence (or at least the evidence has not sought to directly counter the productive efficiency arguments). There is some macro-economic evidence emphasizing at least the social benefits of education (McMahon, 2000); there are also discussions on the importance of education as a catalyst for social change (see, for example, Levin and Kelley, 1994; Ashenfelter and Rouse, 1999). But these arguments are not easy to render in terms of the empirical aggregates put forward by the pro-voucher lobby. There is some evidence of school choices being racially driven (Schneider et al., 2000; Moe, 2001). Evidence on those who, under choice reforms, do actually 'choose' shows that these individuals are typically more highly educated, of higher social class, and have higher expectations than those who do not choose (Witte, 1999; Martinez et al., 1994). Finally, there is some international evidence of segregation or clustering: Fiske and Ladd (2000) report an increase, albeit a small one, in clustering of minority students in New Zealand. However, there is also some powerful population-level evidence from England and Wales that segregation is actually reduced after pro-market reforms (Gorard, 2001). Plus, Moe (2001) uses survey data to argue that a voucher scheme which liberated those who most wanted to change

schools would actually 'moderate' the private sector: such private schools would integrate races and income groups more closely.

Second, notions of equity are complicated (with some appeals to equity actually being motivated by self-interest). Interest groups on the Left appear to be arguing that poor families should not be allowed to commute across districts (foreclosing on them the privileges that high-income families already have through their residential decisions). Yet those on the Right may be (covertly) arguing for vouchers because they offer an element of fiscal restraint and control, rather than because they raise productive efficiency or enhance choice (Carnoy, 2000). Separating legitimate concerns about equity from claims by special interests is particularly difficult.

It may be possible to define equity in educational terms directly, as proxied by: equality of post-schooling human capital (Levin, 1991); equality of the marginal social benefits of a year of education across each social group; or by 'wealth neutral' funding (Cohn, 1984). In Roemer's (1998) model, equal opportunity education provision should neutralize 'circumstances', but reward 'effort'. For each of these definitions, however, agreement is needed as to what: (a) the respective returns to each group are; (b) the respective returns to society versus the returns to each individual are; and (c) initial human capital endowments across individuals are.

Similarly, notions of social cohesion are unclear: Manski (2000, 122) criticizes the different definitions of social capital, arguing none have any economic meaning. Social capital depends on bonding, i.e. ties within groups, and bridging, i.e. ties across groups. Bridging social capital may include characteristics such as 'tolerance' or 'an understanding of citizenry/democracy'; bonding social capital may include characteristics such as 'core values', 'religious faith' or 'racial identity'. Vouchers may be more effective at the promotion of bonding rather than bridging, and such

bonding may be associated with educational choice. The net effect on social capital is then debatable: by allowing choice, decreases in bridging may be offset by increases in bonding.[3]

To identify social cohesion, expenditures to reduce the generation of bads might be counted (e.g. on generating trust, Fukuyama, 2000; or on reducing crime, Figlio and Stone, 2001). Alternatively, social cohesion could be proxied by the scope for collective action. Broadly, such action depends on: (a) identification individuals have with one another; (b) existence of agreed leaders; and (c) clear rules over membership of society (Ostrom, 2000). Each of these could be undermined through demand-led schooling, where individual preferences are given greater rein. On (a), individuals will feel less identification with those who have not had the same schooling experiences. On (b), leaders will be less clearly identifiable and agreed on for similar reasons. And on (c), if societal membership is conditional on prior instruction according to a generic curriculum, then vouchers may undermine membership rules.[4]

Third, the available evidence on social cohesion and equity may have little pertinence for the development of policy and the general acceptance of vouchers. Current voucher schemes are only small-scale and so offer only limited information as to what would happen to social cohesion and equity under large-scale voucher reforms. Moreover, choosers in the current voucher schemes are typically less advantaged across a range of socio-economic indicators than those who can already choose via their residential decisions. Furthermore, international evidence – where practical problems and issues of social cohesion and equity have been more clearly investigated – has probably had little influence on the US debate. This literature may not be generalized, given

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[3] Walford (2000) describes how the education system in the Netherlands is divided into Protestant and Catholic sectors. Although there is "pillarization" of that society along religious lines, co-operation at the elite/government level preserves social cohesion.

[4] Although these effects sound plausible, three caveats seem appropriate. First, it may be perfectly possible to sketch out mechanisms such that educational choice can stimulate collective action. Second, the determinants of collective action may be so diverse and complex that greater choice has a very small or non-substantive effect. Finally, the extent of collective action may be too high: some individuals might prefer a lesser capability for collective action or social uniformity (Lott, 1987).

differences in provision, funding and regulation of education (as well as in historical and social conditions). So, although the evidence and theoretical frameworks for these concepts are growing, presently they are not compelling in the same way as the productive efficiency arguments.

Finally, and perhaps the most important way in which these arguments are undermined, is related to voucher design. It should be possible to devise a voucher scheme that preserves (in some form) social cohesion and is regarded as equitable. If there is 'cream-skimming', for example, then the value of the voucher can be altered, so as to establish equality of resource distribution for each pupil (or Federal funds can be allocated more regressively).[5] Plus, the voucher can be limited to public school choices or be means-tested.

2.5 Interest in Vouchers

At least from an Economist's perspective, then, the interest in vouchers is clear. Voucher schemes are grounded in a set of broadly accepted economic principles, and buttressed by an array of mildly positive supporting evidence (across an array of methods and international contexts), without compelling counter evidence. This positive evidence has been powerfully juxtaposed against evidence that US public schools are in a critical condition (Hanushek, 1998). Also, voucher schemes offer a direct route to policy-making, where such policies have immediate and substantial influence.

However, this interest has failed to translate into a direct policy of large-scale importance; and any enthusiasm for vouchers – to the extent that it was ever 'enthusiastic' (see the discussion of a 'public school ideology' in Moe, 2001) – may in fact be wavering.[6] This stalemate is considered below.

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[5] This approach is used in New Zealand. There, schools are separated into deciles where the highest decile – judged in part by its student intake - receives the least funding. However, accurately calibrating the distribution of funding across deciles may be difficult and parents may still wish to move to higher decile schools (see Fiske and Ladd, 2000).

[6] Moe (2001) reports on a large-scale survey of voter preferences about education and vouchers. On the notion of a public school ideology, he finds: 67% respond 'yes' to 'public schools deserve our support, even when they are performing poorly'; and 43% of public school parents respond 'yes' to 'I believe in public education, and I would not

3. Why the policy stalemate on voucher schemes?

3.1 Policy Inertia on Vouchers

Voucher schemes are not part of the Federal Education Bill being passed though the US legislature in the summer of 2001. Only the State of Florida is attempting to introduce a more expansive education plan, and this legislation is being highly contested. (Few school districts will take unilateral steps toward more vouchers). Other choice programs are stymied in the courts, attested as violating the separation of Church and State. Where the option of a voucher scheme has been offered to voters in referenda, it has consistently and convincingly been rejected (e.g. in Michigan and California in November 2000). A disinterested observer might declare any interest in vouchers as 'academic'.

Indeed, each of the above factors and motivations for vouchers may be challenged and so make the disinterestedness identified by Moe (2001, Chapter 6) the optimal response. Taking the weakest populist motivations first, the decline in economic performance in the US is likely to reduce the number of pro-market ideologues, as well as the support for groups that espouse such market reforms. Also, current voucher initiatives (both public and private) are often evaluated by political agencies, with an ideological position. Consensus on the effectiveness of these initiatives is perhaps more apparent (in what is written in the evaluations) than real (in being considered credible). Importantly, the more substantive arguments may also be questioned: the economic principles might not be that compelling and evidence on the efficacy of vouchers is not conclusive. Plus, there may be hidden implementation costs and political conflict that may obstruct the introduction of vouchers. These arguments are developed below.

3.2 Economic Principles Applied

The economics of market accountability and demand-led provision may be sound in principle, but voucher schemes may be structured such that the full benefits cannot be accrued. In

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feel right putting my children my kids in private school.' On the more general ideas of enthusiasm for vouchers, Moe (2001) notes considerable satisfaction of parents with public schooling.

setting the value of the voucher, for example, it is difficult to estimate the optimal marginal reimbursement rate: the simplest voucher would offer 100% reimbursement for a given portfolio of courses, and then 0% for any additional courses (or more intensive courses). This discontinuity between the value of the voucher and the subsidy rate is likely to be inefficient, given reasonably heterogeneous preferences for education (Belfield, 2000).

Where the voucher offers less than full universality, or is temporary, then many of the economic benefits may not materialize. Instead, queues may lead to corruption and distort other decisions (e.g. forcing people to reside in the same region to qualify for the voucher). New marginal taxes arise where the voucher is income-contingent (creating a more complicated tax structure, and so more tax avoidance). If there is no reimbursement of the voucher, recipients may overpay the school for a given unit of education, since no cost saving can be recouped. Such overpaying will generate rents to producers, although these depend on the costs of search for alternative provision and on the degree of supplier competition. Further, the benefits of the market are a function of the size of the market: often voucher programs are restricted to 'public choice' (excluding private schools) or minimum efficient scale permits of only one provider within a locality. Finally, markets may not be pertinent where education has strong externalities, as a public good.

3.3 The Evidence on the Merits of Vouchers is Not Conclusive

Each set of evidence for vouchers may also be challenged. The gains from the actual voucher schemes may not be that large. An effect size of 0.1 (as in Milwaukee) is not substantial, particularly when the transition costs from one education system to another are included. More broadly, in a review of the effectiveness of private schools, McEwan (2000) reports two findings. For achievement, there appear to be: modest effects for mathematics of poor, minority students in grades 2-5 (but not in grades 6-8 or among non-black students) from attendance at Catholic schools; and no consistent effects for reading. When basic cross-sectional analysis (rather than experimental data) is used, even fewer consistent effects show up. For attainment, Catholic schools increase the

probability of high school completion and of college attendance (particularly for minorities in urban areas). These results do not suggest overwhelming benefits from attending private school. They certainly raise questions about the price of private schooling, given cost-less enrollment in public schooling, and about the educational gains anticipated from competition.

Regarding the experimental evidence, a number of methodological concerns are still outstanding. The results have not been subject to intensive peer review at this stage. There is no explanation as to why the results are uneven across year cohorts, subjects or minority groups. Plus, there may have been differential incentives across participating students (generating selection and attrition bias). As the effects appear limited to African American students, it is not clear how these effects can be generalized. More generally, the experimental evidence may lack external validity: any results are contingent on the specifics of the value of the voucher, student eligibility, or of how the voucher was introduced.

The international evidence may also reflect less than positively on voucher reform. For example, the pertinence of the evidence for Chile may be questioned: there, notions of freedom of choice were embedded in a political struggle between the left-wing education sector and the right-wing government (which exercised 'strong' social control). For the United Kingdom, experimentation with explicit demand-led financing was not in fact successful; and the pupil-as-voucher scheme was focused more on raising provider efficiency, within a public sector 'monopoly' of provision and within a system of regulations which include a prescriptive National Curriculum and common national examinations.

Finally, evidence on the relative efficacy of the market does not show sizable gains from competition (Belfield and Levin, 2001). Dee's (1998) evidence suggests that relatively few numbers of schools are needed in order for full competition to be stimulated: many districts may already be close to contestable competition. Although there are gains from competition, these are based on

very large system-wide reforms (e.g. two standard deviation increases in the numbers of school districts). Furthermore, a large-scale voucher scheme will be contingent on the elasticity of supply of new schooling and would require (as in Chile) increased numbers of providers; these would be of unknown organizational quality.

3.4 Costs of Implementing Voucher Schemes

Even where the benefits of voucher schemes are substantive, there may be several, large hidden costs of implementing such a scheme at the macro-system level (Levin and Driver, 1997). Such costs would also offset any gains to productive efficiency at the micro, school level. As legislators look at these costs, and so envision them, they increasingly weigh against implementation of vouchers.

One clear cost is that of legal challenge. Although it is assumed to be possible to devise a voucher plan to pass the Constitutional requirement of the separation of Church and State, many choice programs are legally contested (Kemerer, 2000). In delays, legal submissions and uncertainty, such challenges raise implementation costs.

Another set of costs is practical. One is that voucher plans require the government to have contracts with each individual student, rather than macro-contracts with the school district over provision (Levin, 1998). Another is of course the setting of the appropriate value for the voucher. More broadly, it may be difficult to prescribe the coupon under different circumstances – essentially, the sizable, logistical problem is to change to a simple unit-based formula from a highly complex historical funding formulae (Verstegen, 1998, 58).

A third cost is that of political opposition, in part based on an ideological aversion to the privatization of schooling. Direct stake-holders in the current system (such as workers in the education sector) may wish to preserve the status quo: this may increase the political costs of closing low quality schools, for example. Parents may fear that efficiency gains are actually cuts in expenditures. Education policy debates play out in national forums, with high stakes and after

critical media scrutiny. Further, parental preferences may actually hinder voucher reform: as higher satisfaction with schooling is reported by *lower* educated parents, Moe (2001, 96) observes that "the people in American society who are the most desperately in need of education reform are precisely those least likely to demand it." Such inertia (if it is legitimate) raises the costs of reform as well as making political agreement more complex. As evidence of this complexity, the rhetoric on vouchers has led to policies that seem in turn to have thwarted both the Left and the Right. For the Right, vouchers were promoted because they offered freedom of choice, e.g. to low income families who cannot enroll at schools out of their tax base. The result has been progressive reforms (e.g. in Florida), with vouchers directly targeted at low income families. However, the Left has not eagerly embraced such progressive reforms: the absence of vouchers from the current Education Bill (2001) was a clear condition of any Democrat support.[7]

Finally, although there is only some evidence on social cohesion and equity, these ideas may loom large in the fears of parents and voters, and so policymakers. If these groups are risk averse, they might prefer the status quo and over-estimate the costs to equity and social cohesion. More generally, such preferences may be appropriate. Using Levin's taxonomy, there is no clear-cut evidence that the possible costs (in terms of social cohesion and equity) will not outweigh the possible benefits (to freedom of choice and productive efficiency); and these costs and benefits will vary with the terms of the voucher. More important to the political debate is the distribution of these costs and benefits across voter coalitions; this too is not readily predictable. Overall, this lack of knowledge is a powerful corrective for those who fear large-scale, 'constructivist' reform of complex social organizations and institutions.

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[7] This partisanship may or may not be important: the large majority of funding for education comes from State and local funds, not from Federal funds. So States and school districts have the economic power to effect change. However, a federal voucher program would offer the states a stronger platform for undertaking programs locally: federal programs have symbolic, rather than substantive, importance (Loomis, 2000).

4. Further Privatization of Education?

4.1 Supply-led Reforms

Notwithstanding the above discussions, education reform, and particularly privatization, is continuing. Besides vouchers, such privatization may operate just on the supply of provision. Such reforms might include more competition between schools, greater accountability, and or the introduction of for-profit, contract schooling. Each of these reforms may raise productive efficiency, perhaps with fewer difficulties than with voucher-led reform. Competition between schools may be effective in terms of internal allocative efficiency (e.g. teacher deployment, use of physical resources), without the adverse consequences to equity that come with greater freedom of choice for parents. Accountability initiatives may be effective (e.g. in Dallas, Ladd, 1999) and (relatively) politically and legally innocuous. In contrast, the consequences of for-profit schooling are largely unknown (Levin, 2001).

However, supply-led reforms may develop separate from demand-led reforms. Where there are either cost reductions from competition, or clearer goals from increased accountability, these gains to productive efficiency can be realized within the current system. Assuming plausible elasticities, the equilibrium amount of education will increase if demand is unchanged but supply shifts 'outward'. At issue, then, is whether such supply reforms are sufficient.

4.2 Tuition Tax Credits

Other demand-side reform beyond vouchers is possible, however. Most recently, tuition tax credits have been receiving attention; such credits have been proposed in the 2001 Federal Education Bill and may have potentially far-reaching impact. These credits share some of the features of vouchers, but also differ in important ways.

Tuition tax credits reflect a different strand of privatization in terms of freedom of choice. The strand of privatization that includes vouchers involves re-allocation or re-apportionment of existing rights or opportunities to trade services. Such re-allocation can only proceed so far: many

rights have been transferred, such that many schools are now 'hollowed out' of most non-core services. But a separate strand would be to create *new* opportunities for trade in education services, as might occur with (tuition) tax credits. Typically, tax credits would be less than the amount for private provision, and as public schools would not be able to charge fees. Hence the main effect would be for public school parents to buy extra education, rather than necessarily switch to the private sector (although see Olsen et al., 2001). This strand is more open and so perhaps more likely to develop: as technologies change and the demand for skills changes, individuals will want further flexibility in how to conduct education 'trades'. By allowing individuals to spend tax-free on education, such credits offer more liberality in what types of education are taken up; tax credits may be less effective in stimulating mainstream education provision, but operate more on efficient provision around the margins of such provision.

However, because tax credits represent money, they can be used directly on the most efficient forms of provision. This usage encourages productive efficiency of providers and rewards those providers directly. Tuition tax credits may also be superior to vouchers in that they are only drawn upon where supply is forthcoming. If there is no worthwhile supply of education services, then individuals will not want to give money 'through' their tax credits (hence solving the issue of elasticity of supply of new provision). Where tuition tax credits do work, this may undermine one of the criticisms of for-profits in education, i.e., because of 'contract failure' in education it is too hard for individuals to monitor such providers. Perhaps of equal importance is the legal standing of such credits: any induced expenditures are viewed as private, and so do not violate the Establishment clause of the Constitution (Kemerer, 2001).[8] This reduces the costs of legal challenge. However, the financing burden may be substantial, moving to an open commitment where individuals are able

[8] Perhaps equally important, however, to the development of these new markets is that they have political expediency: it is difficult for political opposition to be mounted against such markets beforehand. It is a matter of political debate whether such marginal provision should be tax-deductible.

to switch from taxed consumption to untaxed spending on education; and the administration of such tax schemes may be complex.[9]

Tax credits may reduce social cohesion: they may be claimed for education that separates out different student groups, leading to the types of segregation predicted under voucher schemes. Similarly, greater use of tax credits may lead to less equality in educational resources: many low-income families do not pay net taxes (with such credits simply serving as a tax loophole, i.e. wealth transfer, for higher income families and undermining commitment to public schooling).[10] Also, tax credits reduce government revenues and the scope for government regulation, thus circumscribing the opportunity for redistributive policy.

There is one important general 'similarity' of tax credits to vouchers, however: the details of the credit matter. Specifically, tax credits can differ in who is eligible; the maximum size of the credit and or proportion of tuition costs covered; and whether the credits are refundable or not (Longanecker, 1983; Catterall, 1983). So tuition tax credits can be tailored in numerous ways. As examples, the scope of earnings eligible for credit could be means-tested; those who do not spend their credits could get rebates; the educational content or percentage of tuition covered could be prescribed; and or credits could be capped. This 'similarity' implies that all the caveats to simple policy inference expressed above on vouchers also apply to tax credits.

So far, four US states have tax credits for K-12 education (Arizona, Iowa, Minnesota, and Illinois). Olsen and Brouillete (2000) report on the tax credit scheme in Arizona. There, taxpayers can contribute up to $500, tax-deductible, to a tuition organization for scholarships to students to

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[9] In the 1990s, the UK attempted to introduce a set of Individual Learning Accounts, which can be used as bank accounts for spending on education. Administratively and practically complex, these Accounts have not been widely adopted. It may be difficult to 'collect' tax credits although, if it is possible to write progressive tax rules, it should be possible to write regressive tax credits.

[10] Indeed, the effects on social cohesion and equity could be much larger with credits. With vouchers the government can prescribe and proscribe the choices being made by individuals in a much clearer way. With vouchers the government has more control over the costs of education; it is less obvious how many (and to what amount) people will take up tuition tax credits.

attend independent schools. Almost all the tuition organizations are religious, predominantly Catholic or Christian. The contributions are reasonably fungible in use (contributors can name particular students for scholarships): in 1999, $14m was contributed toward the education of 7,000 students (Olsen and Brouillette, 2000, 5). So far, then, the tax credit systems in operation are relatively marginal: $500 does not offset the cost difference between public school and private school; but the credits are not refundable, precluding many low-income families from making choices outside the public school system.[11] However, the Federal proposal for tax credits is much more significant, in offering credits up to $2500. This scale of credit could have enormous impact. Its political future is being debated in the summer of 2001, but largely with no evidence base for or against.

5. Conclusion

A partisan reviewer of the evidence can readily find evidence in favor of vouchers. But another reviewer can just as easily find evidence against. Unfortunately, to some extent these reviewers would be using the same sets of evidence to justify their positions. This creates a delicate task for public policy: to weigh the two sides, and yet still propose reforms that will improve education systems. To further complicate this task, there is a range of reforms to choose from, including but not restricted to vouchers, tax credits, for-profit schooling, and increased accountability mechanisms. Plus, even as voucher plans appear to be a permanent 'nearly ran' in education reform, they may give rise to alternative forms of demand-led funding that have similar consequences. To some extent it does not matter which of these reforms are chosen, as it is possible to devise each one with a particular emphasis, be it on productive efficiency, on freedom of choice, equity or social cohesion.

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[11] Longanecker (1983) estimated the annual national costs of a universal elementary and secondary school tax credit to the value of 10% of average per-student expenditure. His estimates are of a cost of $1bn (1983 dollars) and with 60% of benefits going to families above median income. This estimate appears to be on the high side (see Olsen et al., 2001).

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